"the consolidated technology services agency" -RCW 43.105.006
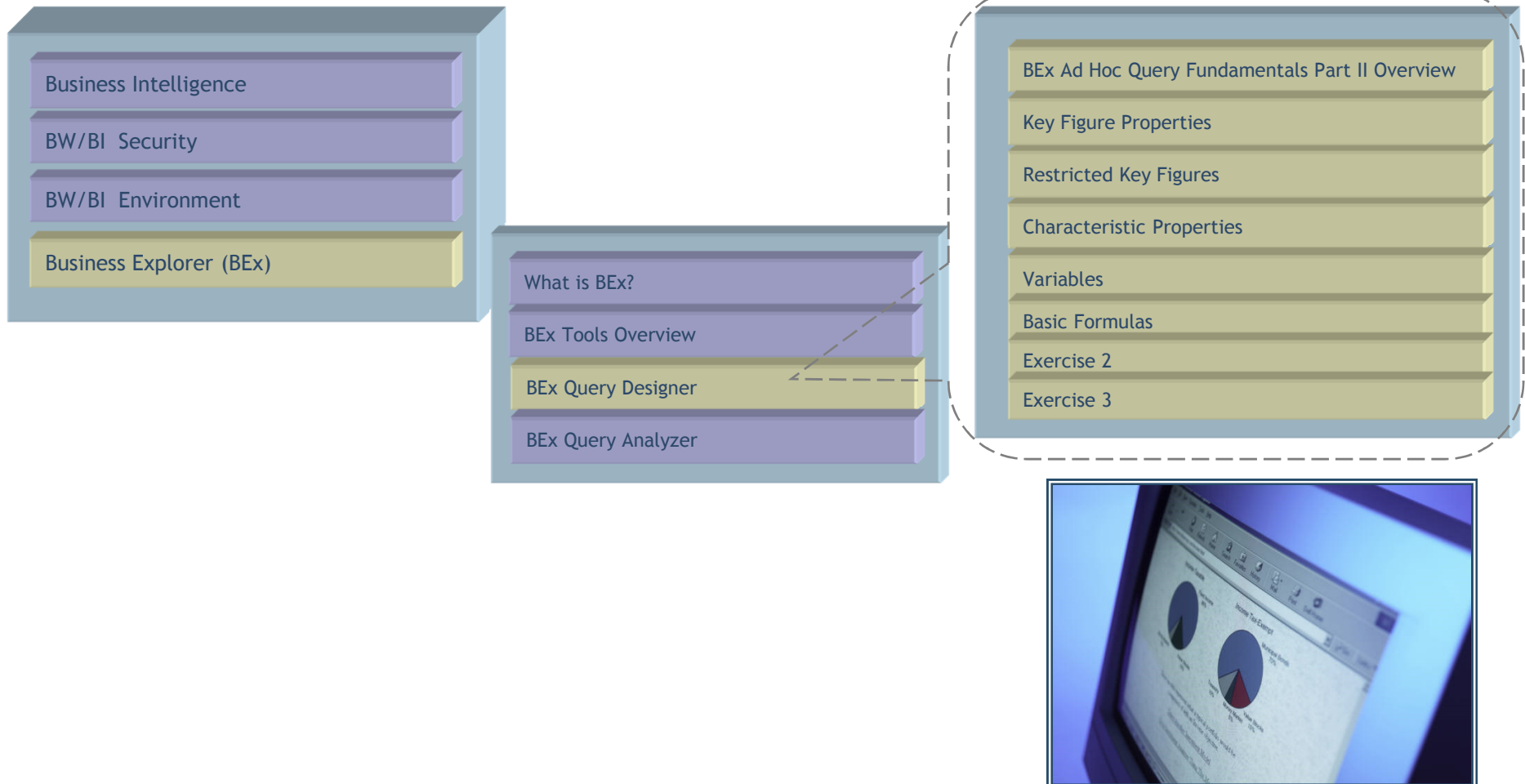
SAP Business Warehouse/Business Intelligence Reporting

BEx Ad Hoc Query Fundamentals – Part II

Washington State HRMS Business Warehouse/Business Intelligence (BW/BI)

BW/BI Power User Workshop Materials

General Topics – BW/BI Power Users

Section 6

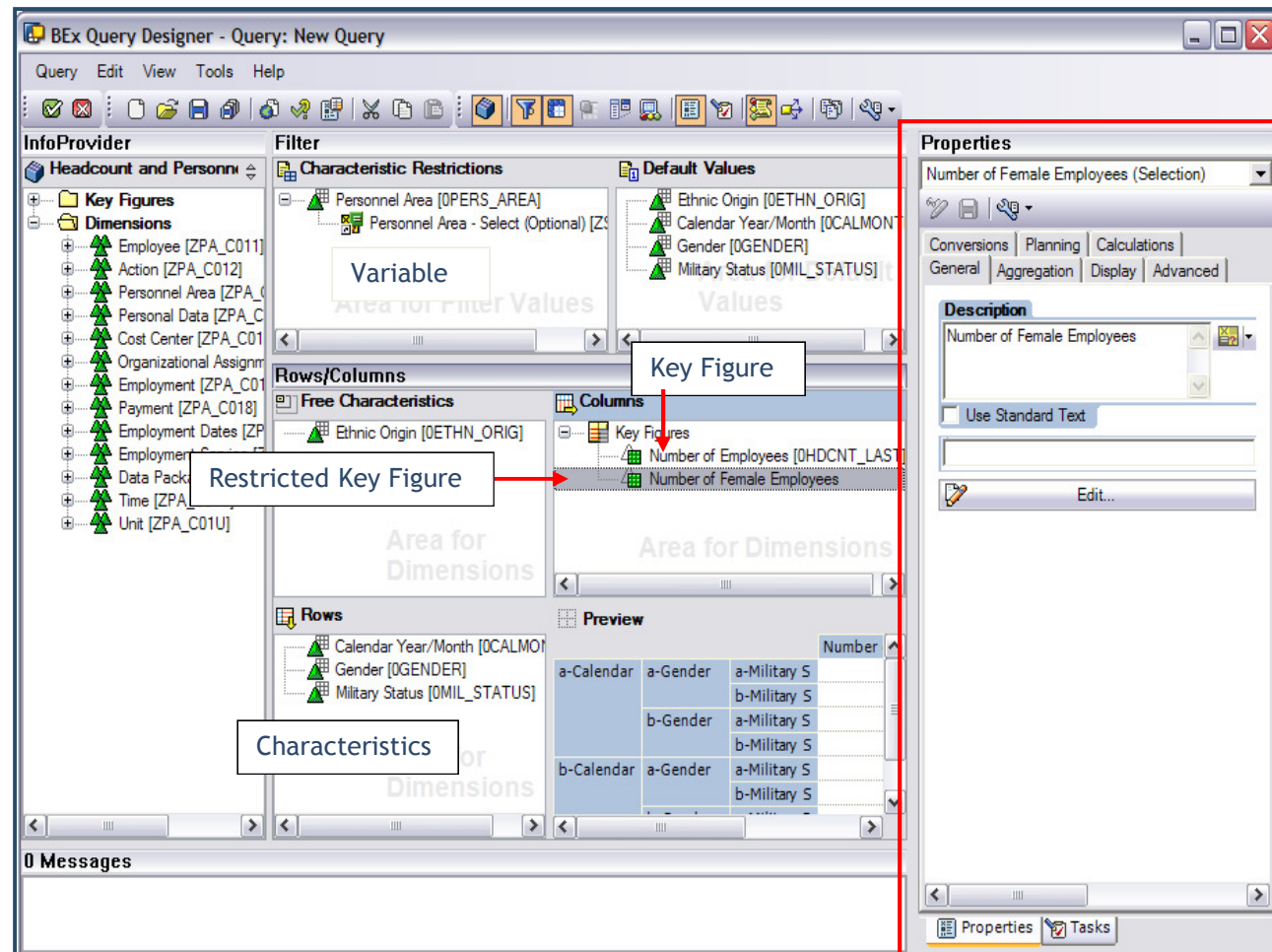# BEx Ad Hoc Query Fundamentals – Part II

The following BEx Ad Hoc Query Fundamentals – Part II section provides an overview of BEx Ad Hoc Query Fundamentals and builds on the key terms and concepts covered in BEx Query Fundamentals – Part I.

Business Intelligence

BW/BI Security

BW/BI Environment

Business Explorer (BEx)

What is BEx?

BEx Tools Overview

BEx Query Designer

BEx Query Analyzer

BEx Ad Hoc Query Fundamentals Part II Overview

Key Figure Properties

Restricted Key Figures

Characteristic Properties

Variables

Basic Formulas

Exercise 2

Exercise 3

BEx Ad Hoc Query Fundamentals – Part II Overview

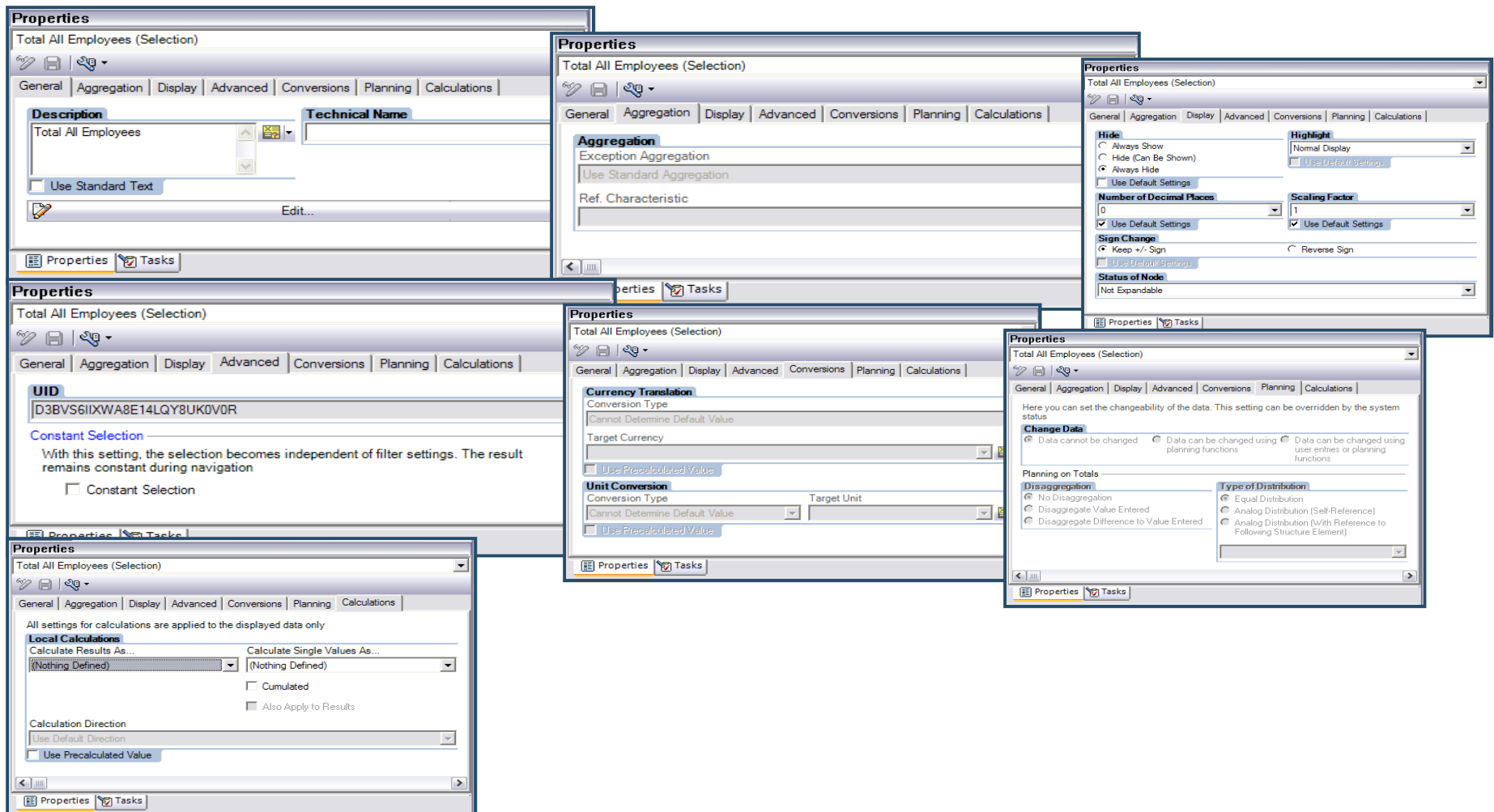BEx Ad Hoc Query Fundamentals – Part II contains the following key terms and concepts:

➢ Key Figure Properties
➢ Restricted Key Figures
➢ Characteristic Properties
➢ Variables
➢ Basic Formulas

BEx Ad Hoc Query Fundamentals – Part II Overview

BEx Ad Hoc Query Fundamentals – Part II contains the following key terms and concepts:

➢ Key Figure Properties

➢ **Key Figure Properties** are settings that format the key figure values when they are displayed in the ad hoc query results.

BEx Ad Hoc Query Fundamentals – Part II Overview

BEx Ad Hoc Query Fundamentals – Part II contains the following key terms and concepts:

➢ Characteristic Properties

➢ **Characteristic Properties** format the Characteristics when they are displayed in the ad hoc query results.
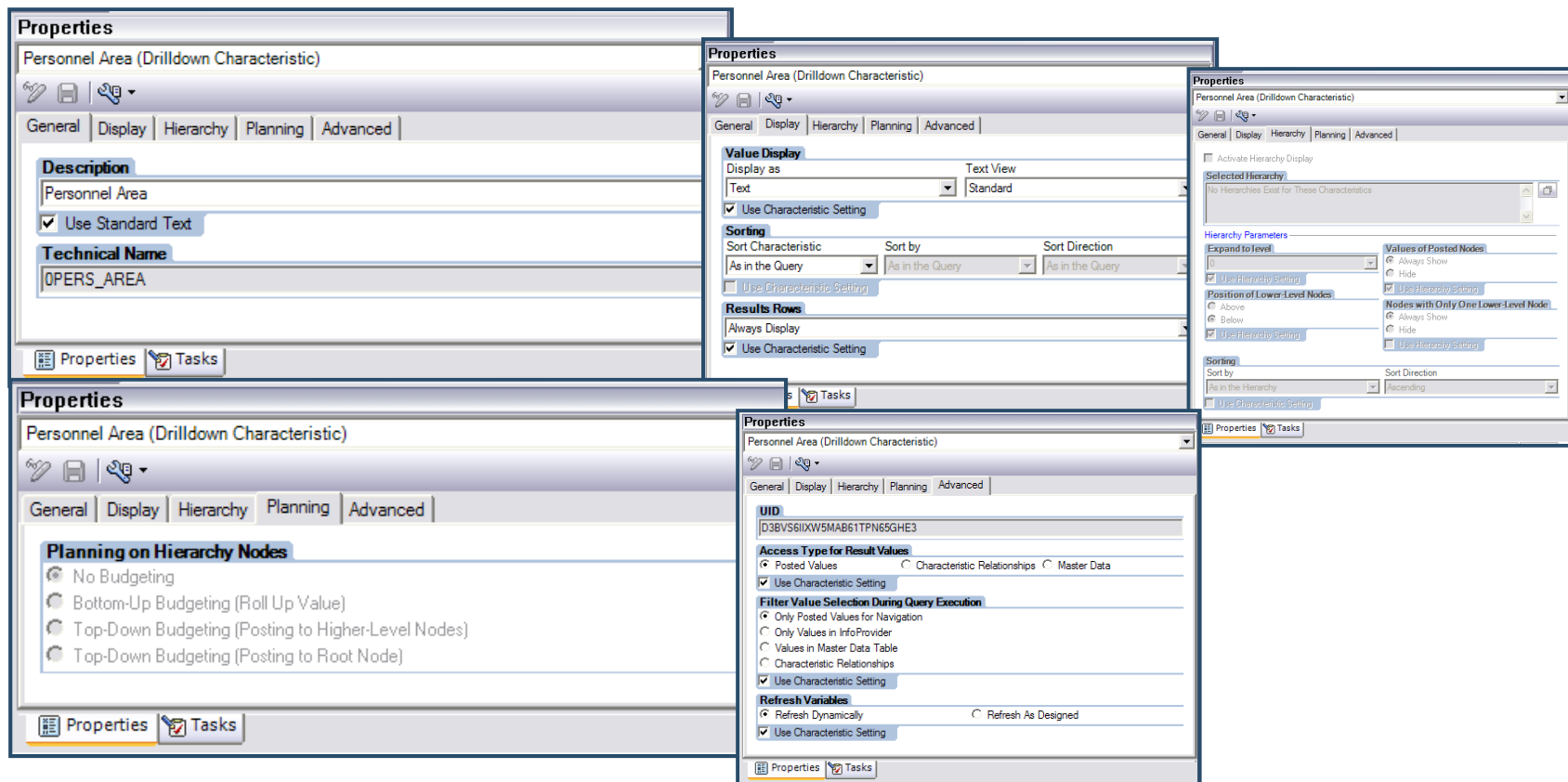
Variables

Variables prompt the user to enter selection criteria values prior to running the ad hoc query. For example, a Variable might be a Personnel Area, Employee Number or Date.

Variables can be selected from the "Characteristic Value Variables" section of the Characteristics.

Indicates a Variable

List of Variables to choose from

Variable has been added. Prompts user for a value prior to running query.

Variables

The example below uses the Headcount and Personnel Action InfoProvider to show how to add a Variable to the Personnel Area Characteristic. The Variable will prompt the user to enter a Personnel Area prior to running the query.
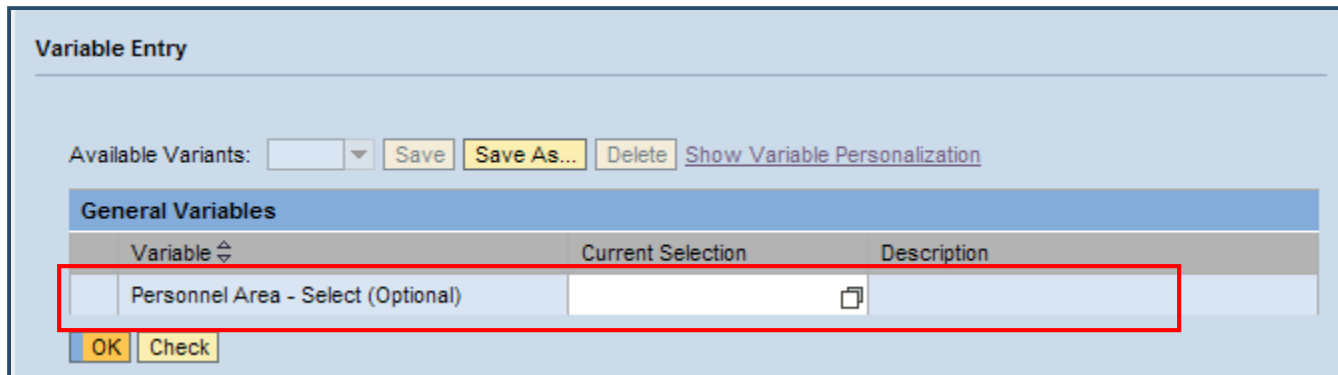
To add a Variable to an ad hoc query:

1. Drag&Drop the Personnel Area Characteristic to the Rows section of the ad hoc query.

2. Right click "Personnel Area" in the Default Values section and select restrict.

3. In the "Show" field, select "Variable".

4. Select the Variable you want to use, click the add arrow to add it to the Chosen Selections area and click OK.

Variable Indicator
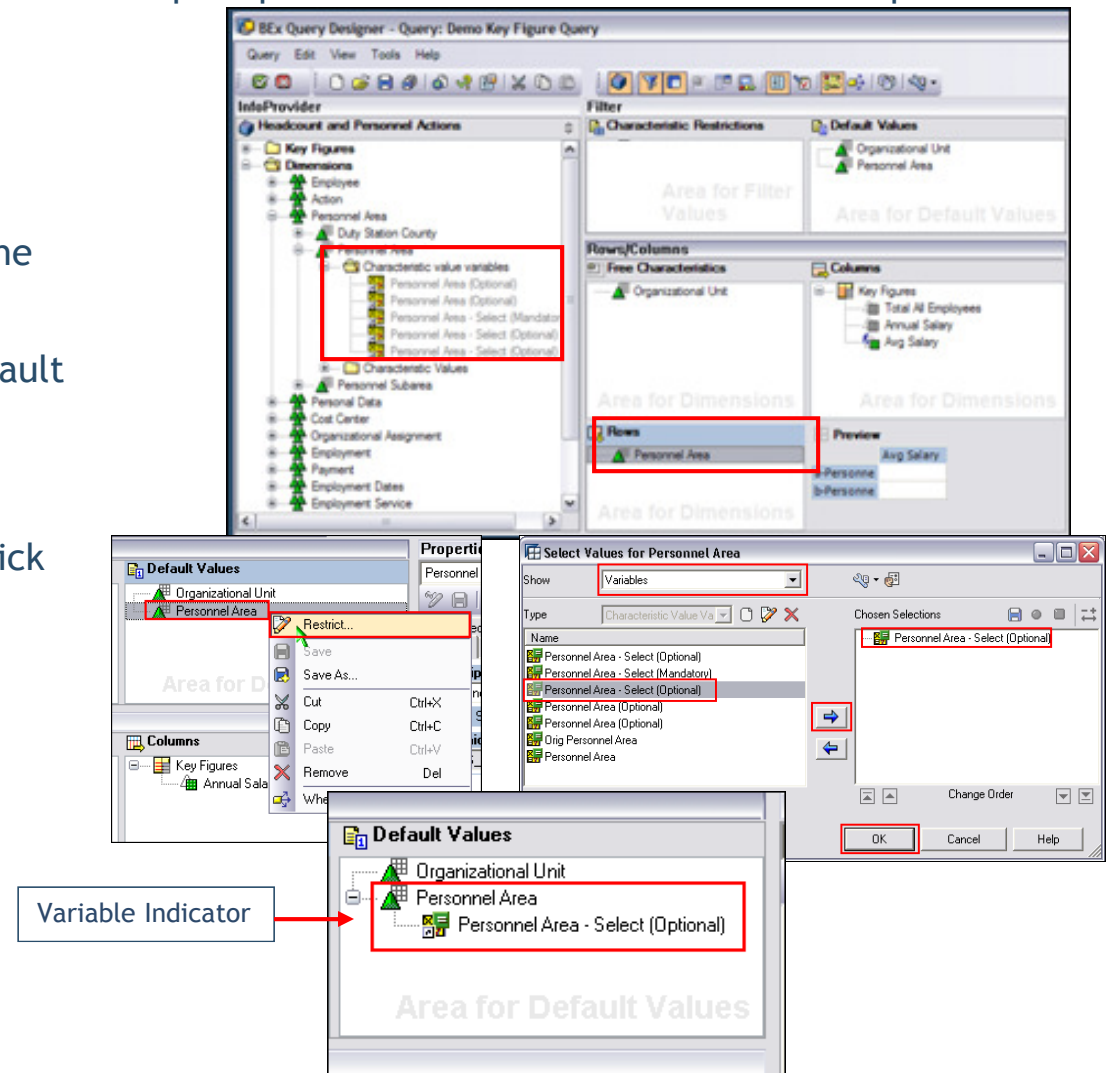
Variables

Result: When the ad hoc query is executed, the user will be prompted to enter a Personnel Area.

SAP Business Warehouse/Business Intelligence Reporting

Exercise 2 – Modifying a Basic Ad Hoc Query

Washington State HRMS Business Warehouse/Business Intelligence (BW/BI)

BW/BI Power User Workshop Materials

General Topics – BW/BI Power Users

Restricted Key Figures

Restricted Key Figures are Key Figures that are filtered by one or more Characteristics. For example, the Number of Employees Key Figure can be restricted by the Gender Characteristic to include Female employees only.

Restricted Key Figures are different than Filters:

➢ **Restricted Key Figures restrict for the Key Figure value only**

In the sample below, the "Number of Female Employees" Restricted Key Figure will display the number of female employees by Personnel Area and Gender.

➢ **Filters restrict for the entire query**

In the sample below, the "Personnel Area" Filter will display the number of Employees and Number of Female Employees by Personnel Area and Gender for a specific Personnel Area only. If the user selects DES as the Personnel Area, the query results will be filtered to DES only.

Personnel Area Filter

Number of Female Employees Restricted Key Figure
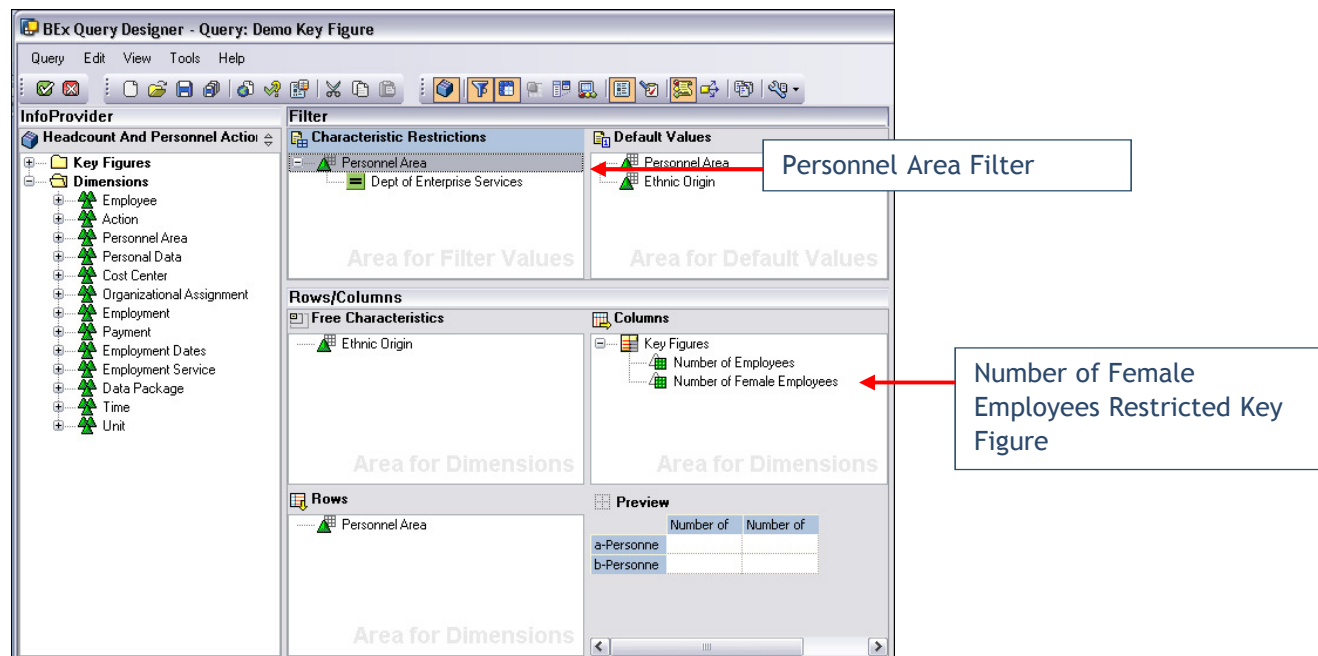
Restricted Key Figures

The example below shows how to create a Restricted Key Figure that will display the number of female employees only:

1. Drag&Drop the Number of Employees Key Figure to the Columns section of the query.

2. Right mouse-click the Number of Employees Key Figures in the Columns section and select New Selection.

3. Highlight the "Selection" that has been added under the Key Figures heading. In the Properties section, click "Edit"
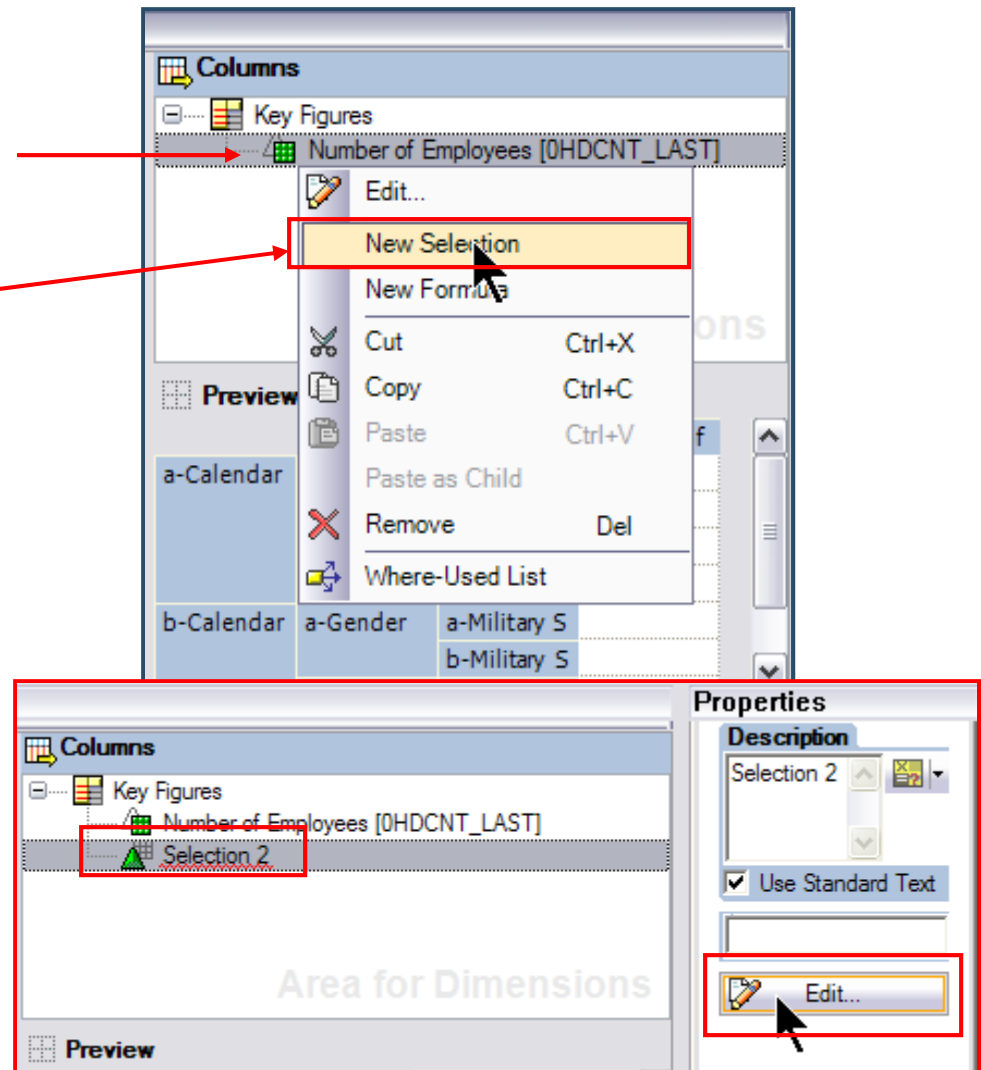
Restricted Key Figures

Result: The New Selection screen will open to assign the restricted key figure.

3. Drag&Drop the Number of Employees Key Figure from the Key Figures folder to the Description section of the query.

4. Enter the name of the Restricted Key Figure (Number of Female Employees) in the Description text box of the New Selection screen.
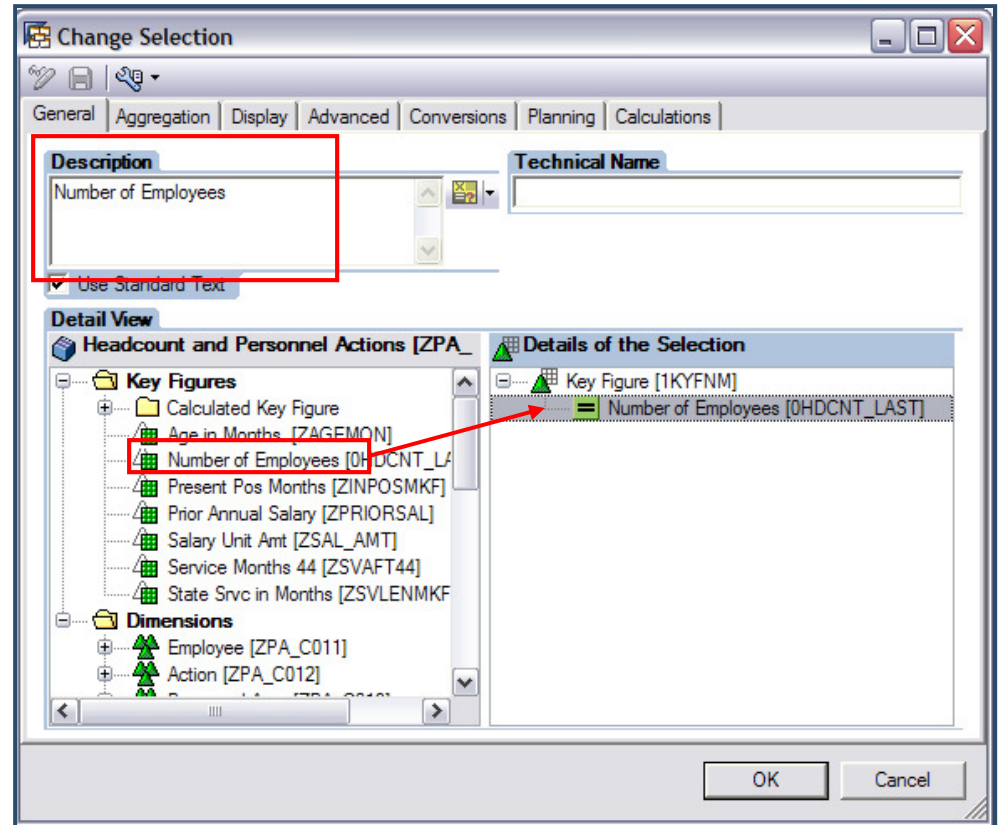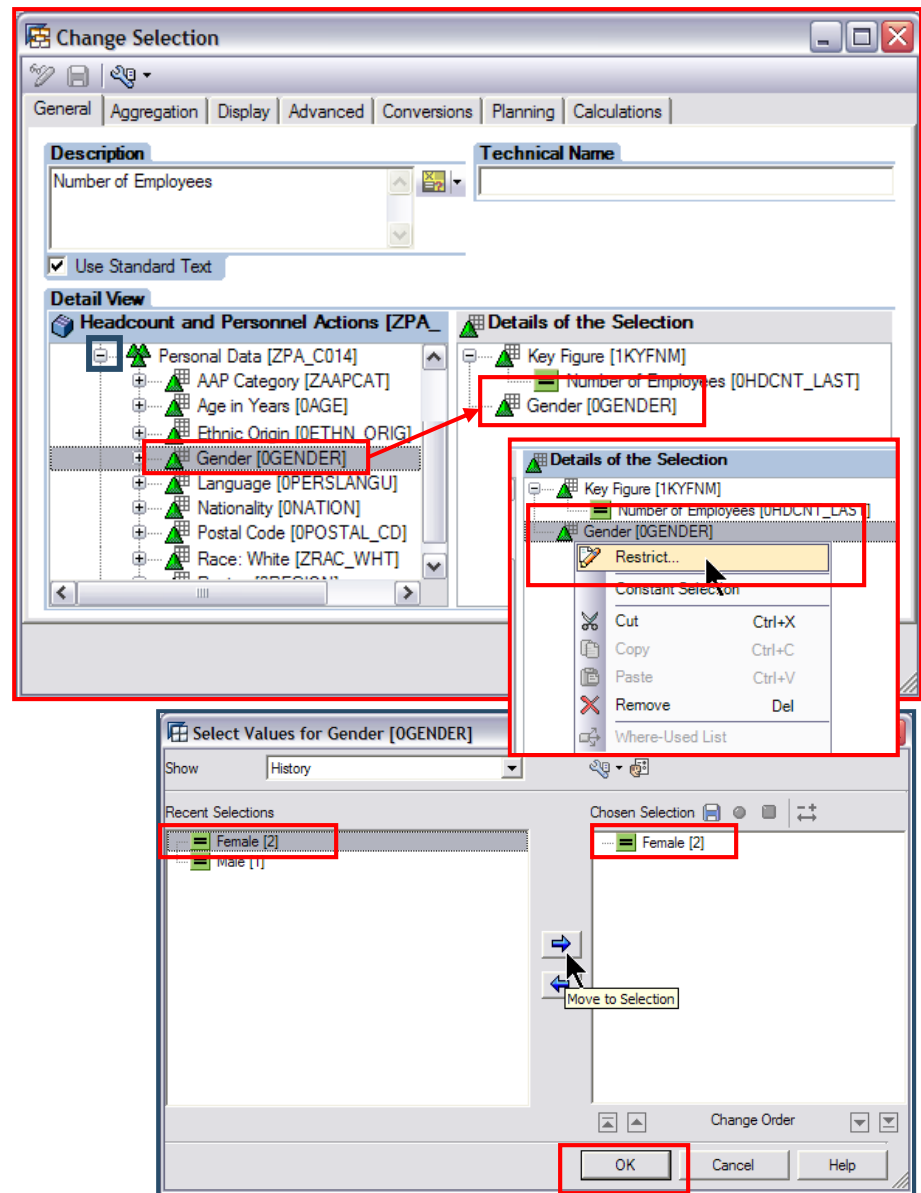
Restricted Key Figures

5. *Expand the Personal Data Dimension.

6. Drag&Drop the Gender characteristic to the Description column.

7. Right mouse-click the Gender Characteristic and select Restrict from the Context Menu.

Result: The Selection for Gender screen will display.

8. Drag&Drop "Female" from the Description column to the Selection column of the Selection for Gender screen.

9. Click OK.

Restricted Key Figures

Result: The "Female" value of the Gender Characteristic has been added to the Key Figure restriction. This will restrict the number of employees for the Number of Female Employees Key Figure to female employees only.

10.   Click OK to exit the New Selection screen.

Result: A Restricted Key Figure has been created that restricts the number of employees to females employees only.
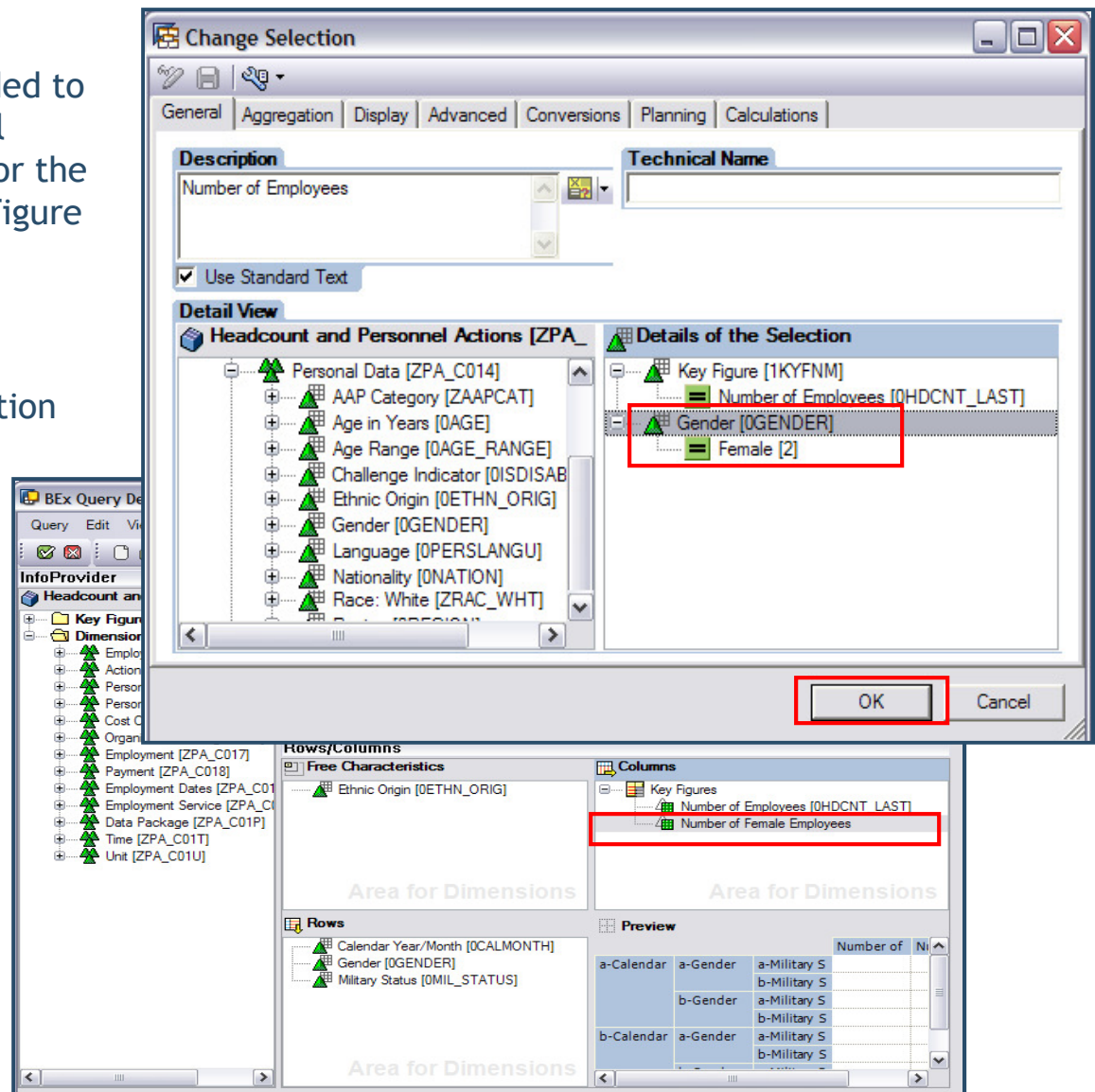
Basic Formulas

Formulas are calculations used to create custom Key Figures in the ad hoc query. Formulas use existing Key Figures to calculate a new Key Figure.

Key Figures that are used in a formula must be added to the Key Figures structure. For example, to create a basic formula that calculates the Average Annual Salary of employees, the Number of Employees and Annual Salary Key Figures must be added to the Key Figures structure of the query.

Add Key Figures that will be used in the formula to the key figures structure in the Columns section.

Basic Formulas

The example below uses the Headcount InfoProvider to show how to create a formula that will calculate the average salary of employees in a Personnel Area:

1. Drag&Drop the Annual Salary Key Figure to the Columns section of the query.

2. Drag&Drop the Number of Employees Key Figure to the Columns section of the query.

3. Drag&Drop the Personnel Area Characteristic to the Rows section.

4. Add the "Personnel Area – Select (Optional)" Variable to the Personnel Area Characteristic in the Default Values section.

5. Drag&Drop the Calendar Year/Month Characteristic to the Filter Section.

6. Add the Calendar Month (Optional) variable to the Calendar Year/Month Characteristic in the Filter Section
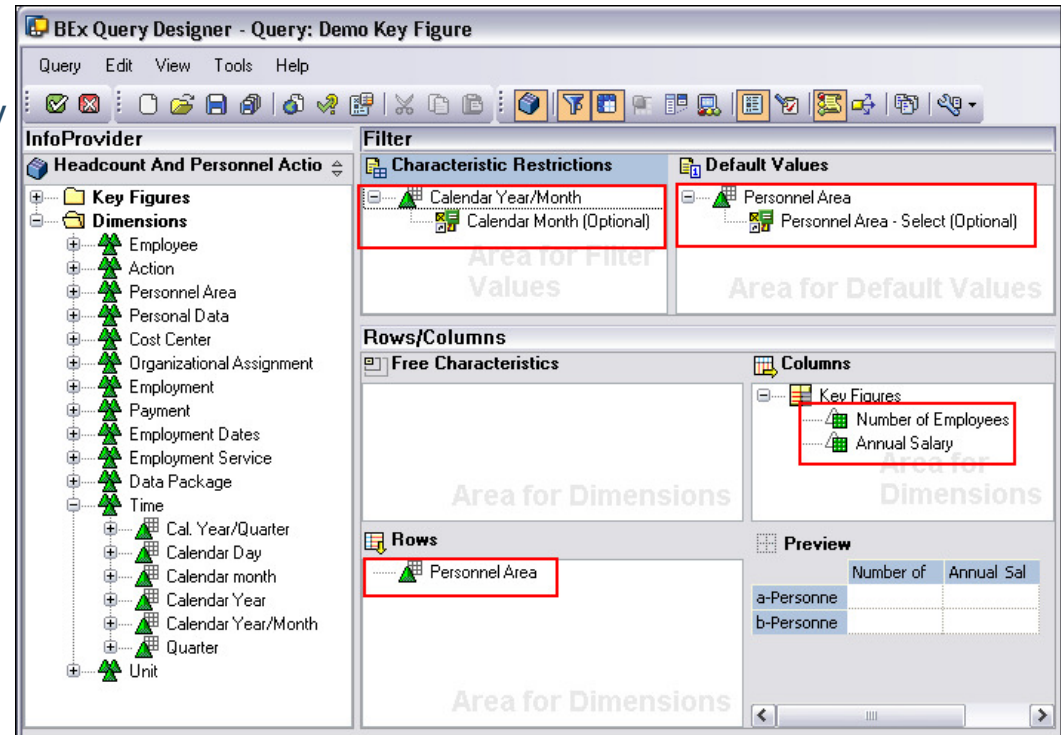
Basic Formulas

5. Right mouse-click the any object in the Columns section to open the Context Menu.

6. Select New Formula.

Result: The New Formula is added to the Column section.

7. Right click the new Formula and select "Edit".
   OR Select the New Formula and click "Edit" in the Properties pane.
   OR double click new Formula.

7. The "Change Formula" box is displayed.
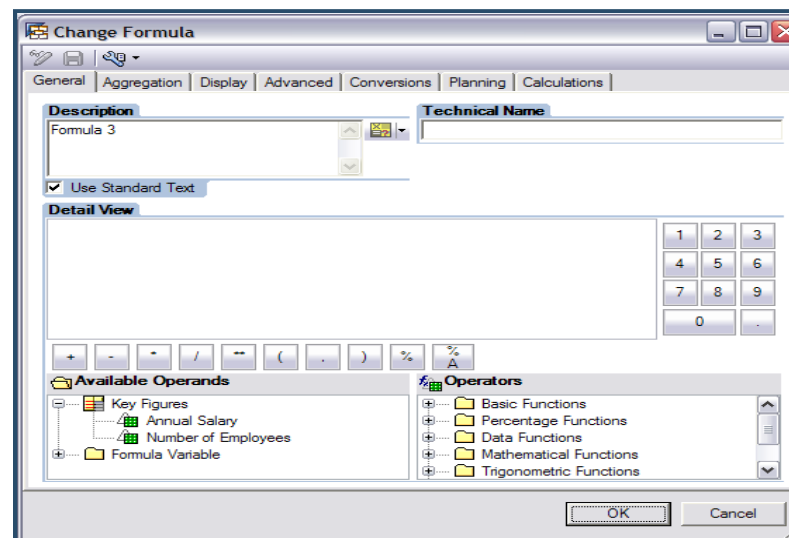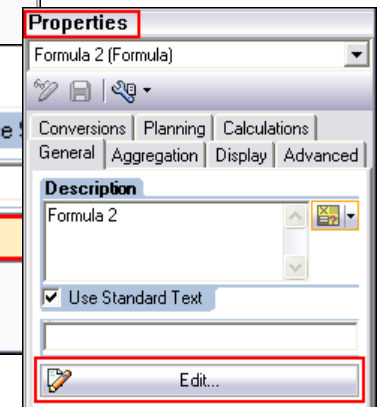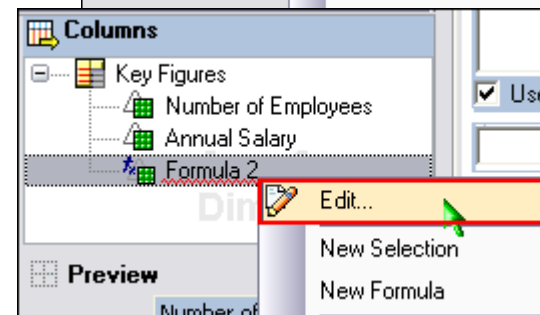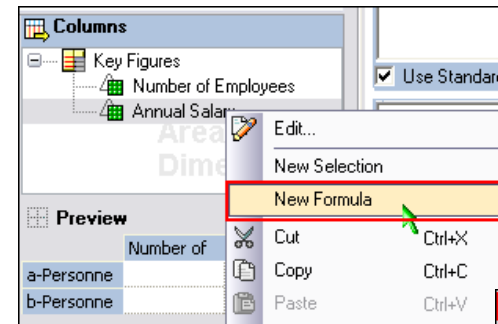
Basic Formulas

9. Enter a description for the formula (in this example, "Average Salary") in the description field.

10. Double click Annual Salary key figure to add it to the formula.

11. Click the Divide by symbol.

12. Double click the Number of Employees key figure to add it to the formula

13. Click OK to close the Change Formula screen
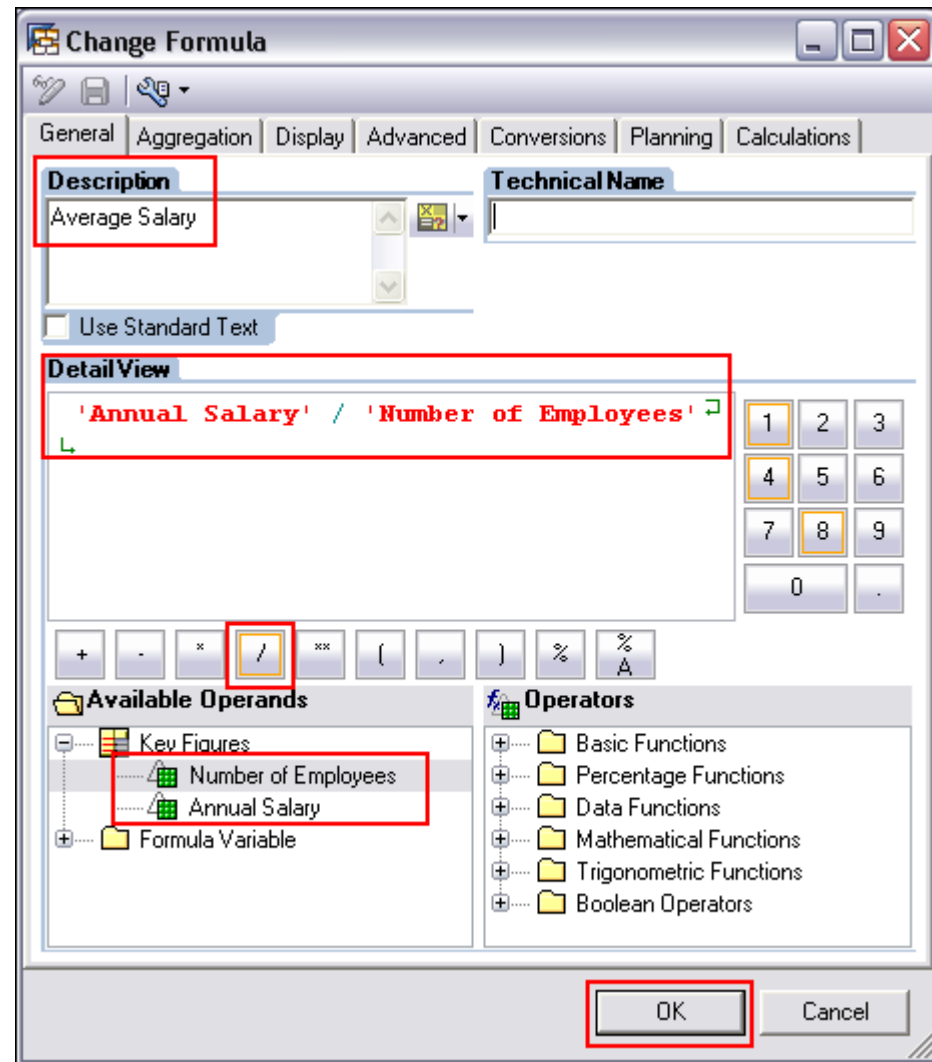
Basic Formulas

Result: A new key figure has been added to the ad hoc query that will calculate the Average Salary of employees by Personnel Area:
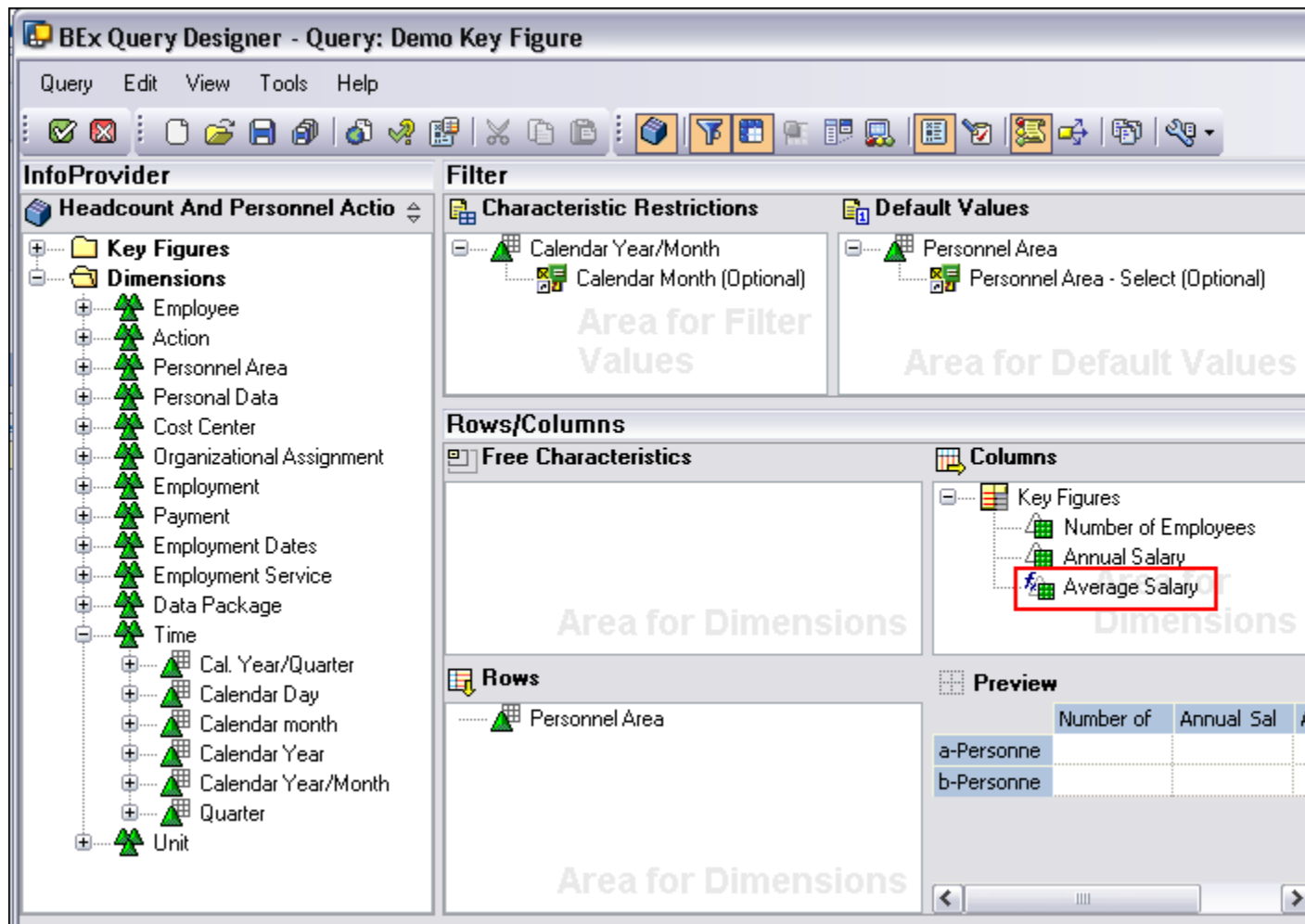
SAP Business Warehouse / Business Intelligence Reporting

Exercise 3 – Modifying a Basic Ad Hoc Query (Restricted Key Figures and Formulas)

Washington State HRMS Business
Warehouse/Business Intelligence (BW/BI)
BW/BI Power User Workshop Materials

General Topics – BW/BI Power Users

Characteristic Properties

Characteristic Properties format the Characteristics when they are displayed in the ad hoc query results.

The example uses the Headcount and Personnel Actions InfoProvider to show how to access the Properties of the Personnel Area Characteristic in the query.

To access the Characteristic properties:

1. If necessary, Drag&Drop the Personnel Area Characteristic to the Rows section of the query.

2. Select the Personnel Area Characteristic.

Result: The Properties for the Personnel Area are displayed in the Properties pane.
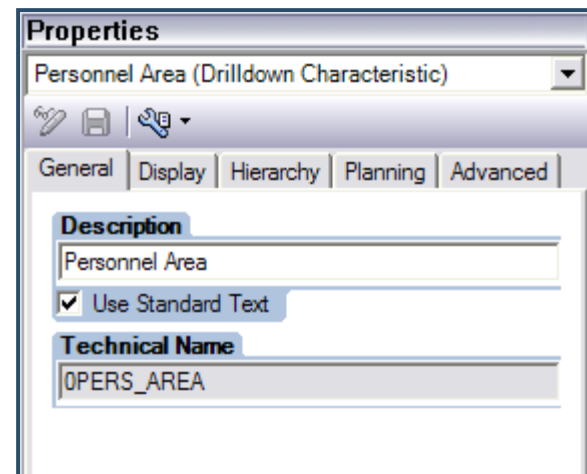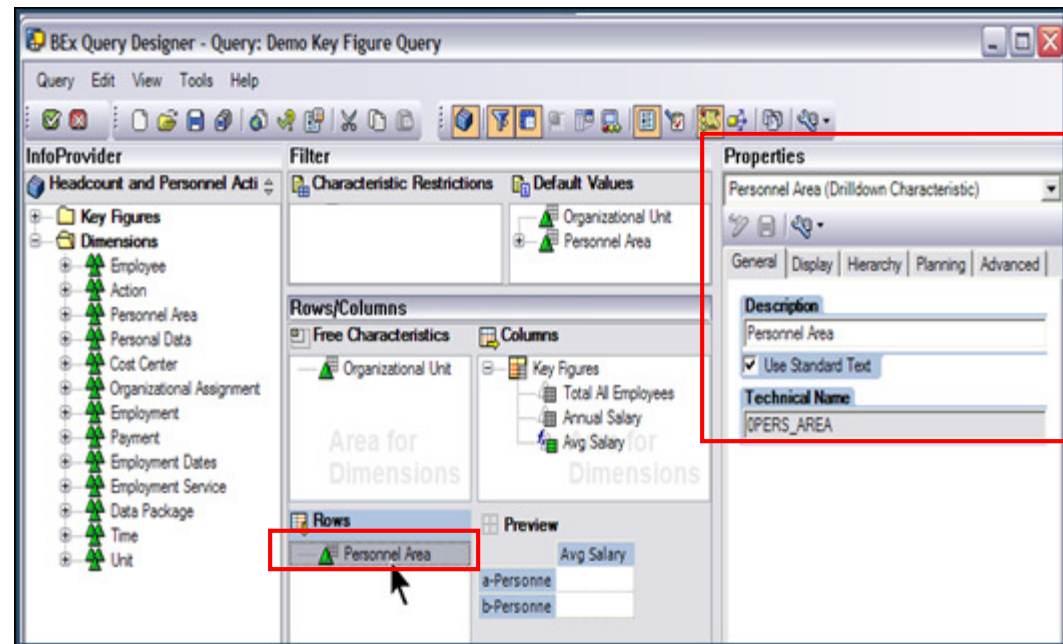
Characteristic Properties

The example below provides a brief description of Characteristic Properties:

Key Figure Properties

Key Figure Properties are settings that format the Key Figure values when they are displayed in the ad hoc query results.

The example uses the Headcount and Personnel Actions InfoProvider to show how to access the Properties of the Annual Salary Key Figure in the query.

To access the Key Figures Properties:

1. If necessary, Drag&Drop the Annual Salary Key Figure to the column section of the query.

2. Select the Annual Salary Key Figure.
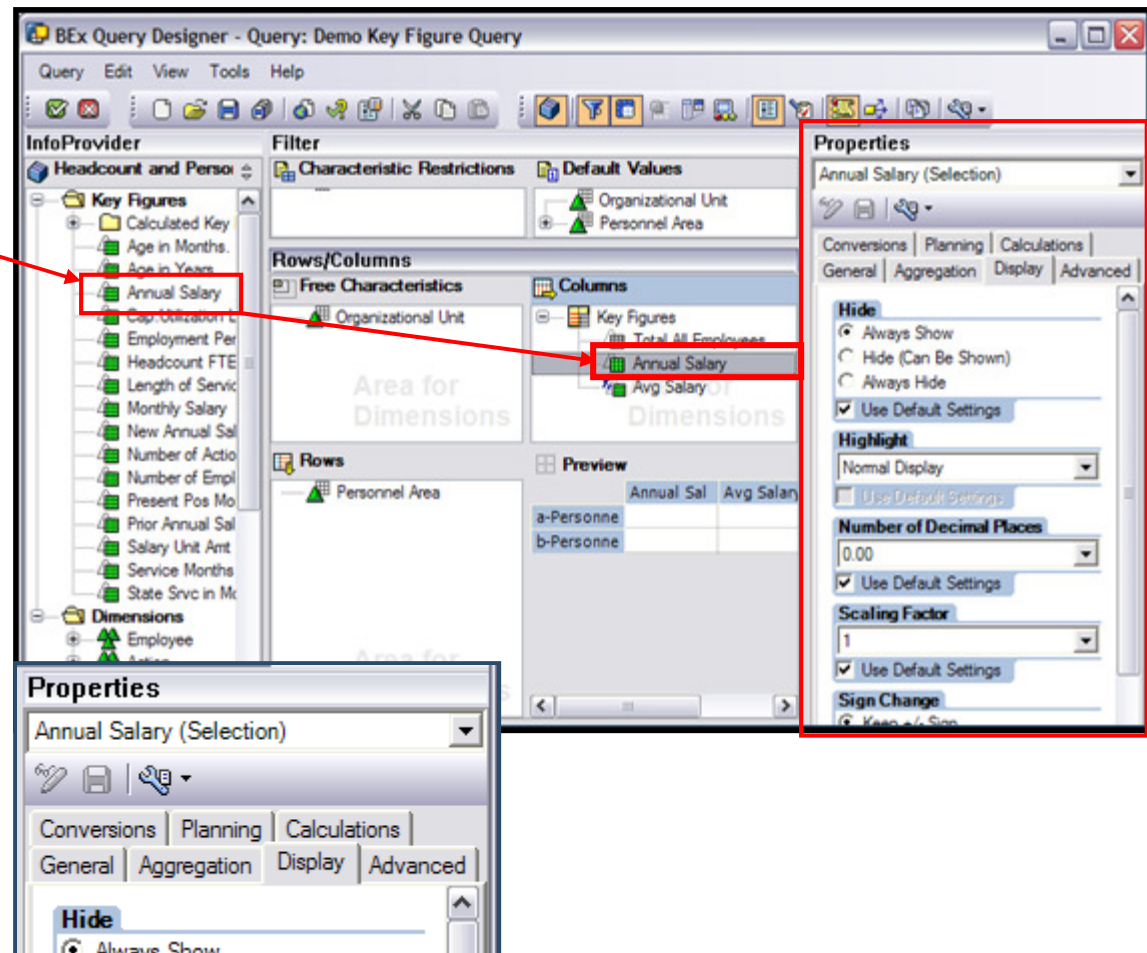
Result: The Properties for the Selection/Formula for Annual Salary are displayed in the Properties pane.

Key Figure Properties

The example below provides a brief description of Key Figure Properties:

Properties

Update description name

Conversions | Planning | Calculations
General | Aggregation | Display | Advanced

Description
Annual Salary

☑ Use Standard Text

Technical Name

Edit...

Properties

Converts to a different currency.

General | Aggregation | Display | Advanced
Conversions | Planning | Calculations

Currency Translation
Conversion Type
Cannot Determine Default Value

Target Currency

☐ Use Precalculated Value

Unit Conversion
Conversion Type   Target Unit
Cannot Determine

☐ Use Precalculated Value

Properties

Key Figure Aggregation

Conversions | Planning | Calculations
General | Aggregation | Display | Advanced

Aggregation
Exception Aggregation
Use Standard Aggregation

Ref. Characteristic

Properties

Annual Salary (Selection)

General | Aggregation | Display | Advanced
Conversions | Planning | Calculations

Here you can set the changeability of the data. This setting can be overridden by the system status

Change Data
○ Data cannot be changed
○ Data can be changed using planning functions
○ Data can be changed using user entries or planning functions

Planning on Totals

Disaggregation
○ No Disaggregation
○ Disaggregate Value Entered
○ Disaggregate Difference to Value Entered

Type of Distribution
○ Equal Distribution
○ Analog Distribution (Self-Reference)
○ Analog Distribution (With Reference to Following Structure Element)

Properties

Determine how the Key Figure will be displayed

Conversions | Planning | Calculations
General | Aggregation | Display | Advanced

Hide
◉ Always Show
○ Hide (Can Be Shown)
○ Always Hide
☑ Use Default Settings

Highlight
Normal Display
☐ Use Default Settings

Number of Decimal Places
0.00
☑ Use Default Settings

Scaling Factor
1
☑ Use Default Settings

Sign Change
◉ Keep +/- Sign
○ Reverse Sign
☐ Use Default Settings

Status of Node
Not Expandable

Properties

Annual Salary (Selection)

Conversions | Planning | Calculations
General | Aggregation | Display | Advanced

UID
D3BVSPE4NKLRDZ45RL6LR4PHN

Constant Selection
With this setting, the selection becomes independent of filter settings. The result remains constant during navigation

☐ Constant Selection

Properties

Determine how the Key Figure will be calculated

General | Aggregation | Display | Advanced
Conversions | Planning | Calculations

All settings for calculations are applied to the displayed data only

Local Calculations
Calculate Results As...   Calculate Single Values As...
(Nothing Defined)   (Nothing Defined)

☐ Cumulated

☐ Also Apply to Results

Calculation Di...
Use Default Di...

☐ Use Precalc...

Local Calculations
Calculate Results As...
(Nothing Defined)

(Nothing Defined)
Minimum
Maximum
Total
Summation of Rounded Values
Counter for All Detailed Values
Counter for All Detailed Values That A...
First Value
Calculation Direction